AMENDMENT TO THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

LISTING OF CLAIMS

1. (Currently amended) A process for producing a perforated porous resin base, which comprises the following Steps 1 to 4:

Step 1 of impregnating the porous structure of a porous resin base with a liquid or a solution;

Step 2 of forming a solid substance from the liquid or the solution impregnated;

Step 3 of forming a plurality of perforations extending through from the first surface of the porous resin base having the solid substance within the porous structure to the second surface in the porous resin base; and

Step 4 of melting or dissolving the solid substance to remove it from the interior of the porous structure,

wherein the porous resin base is a porous resin base which is an expanded polytetrafluoroethylene base having a microstructure comprising fibrils and nodes connected to each other by the fibrils,

~~wherein the liquid or the solution used in Step 1 is a liquid or a solution of a soluble polymer, or a paraffin, or a compound capable of forming a solid substance by a chemical reaction,~~

~~wherein the soluble polymer is soluble in a water or an organic solvent,~~

~~wherein the soluble polymer or the paraffin is in a solid state at a temperature ranging from 15 to 30°C, and~~

wherein the liquid used in Step 1 is either a substance having a solidifying point or a melting point within a range of from -150 to 150°C which is water, an alcohol, a hydrocarbon, a

polymer or a mixture of two or more compounds thereof, or a liquid containing a compound capable of forming a solid substance by a chemical reaction,

wherein the solution used in Step 1 is a solution containing a soluble polymer, which is in a solid state at a temperature ranging from 15 to 30°C, and a solvent, a solution containing paraffin, which is in a solid state at a temperature ranging from 15 to 30°C, and a solvent, or a solution containing a compound capable of forming a solid substance by a chemical reaction and a solvent,

wherein the compound capable of forming a solid substance by a chemical reaction is a polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer, and

wherein the plurality of perforations is formed by a mechanically perforating method or a method of etching by alight-abrasion method.

2-3. (Cancelled)

4. (Previously presented) The production process according to claim 1, wherein in Step 1, the liquid or the solution is impregnated into the porous structure of the porous resin base by a casting or dipping method.

5-7. (Cancelled)

8. (Currently amended) The production process according to claim 1, wherein [[a]] the substance having a solidifying point or a melting point within the range of from –150 to

150°C is impregnated as a liquid at a temperature exceeding the solidifying point or the melting point thereof into the porous structure of the porous resin base in Step 1, the solid substance is solidified at a temperature not higher than the solidifying point or the melting point to form a solid substance in Step 2, and this substance is melted at a temperature exceeding the solidifying point or the melting point to remove it in Step 4.

9-13. (Cancelled)

14. (Currently amended) The production process according to claim 1, wherein the liquid containing the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer or the solution containing ~~the compound capable of forming a solid substance by a chemical reaction~~ the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer and a solvent is a liquid or a solution also containing, in addition to the polymerizable monomer, a polymer obtained by the polymerization of the polymerizable monomer.

15. (Currently amended) The production process according to claim 1, wherein the polymerizable monomer is an acrylate or a methacrylate.

16-17. (Cancelled)

18. (Currently amended) A process for producing a porous resin base with the inner wall surfaces of perforations made conductive, which comprises the following Steps I to VI:

Step I of impregnating the porous structure of a porous resin base including both surfaces thereof with ~~a soluble polymer or a paraffin, or a compound capable of forming a solid substance by a chemical reaction~~ a solution or a liquid;

Step II of forming a solid substance from ~~the soluble polymer or the paraffin, or the compound capable of forming a solid substance by a chemical reaction~~ the solution or the liquid, which has been impregnated, to form a composite sheet of a structure that both surfaces of the porous resin base have a layer of the solid substance, and the solid substance is impregnated into the porous structure;

Step III of forming a plurality of perforations extending through from the first surface of the composite sheet to the second surface in the composite sheet;

Step IV of applying a catalyst facilitating a reducing reaction of a metal ion to the surfaces of the composite sheet including the inner wall surfaces of the respective perforations;

Step V of removing the solid substance from the composite sheet; and

Step VI of using the catalyst applied to and remaining on the inner wall surfaces of the respective perforations in the porous resin base to apply a conductive metal to the inner wall surfaces,

wherein the porous resin base is a porous resin base which is an expanded polytetrafluoroethylene base having a microstructure comprising fibrils and nodes connected to each other by the fibrils,

wherein the solution is a solution containing a soluble polymer and a solvent, a solution containing paraffin and a solvent, or a solution containing a compound capable of forming a solid substance by a chemical reaction and a solvent,

wherein the liquid is a melt of a soluble polymer, a melt of paraffin, or a compound capable of forming a solid substance by a chemical reaction,

~~wherein the soluble polymer is soluble in a water or an organic solvent,~~

wherein the soluble polymer or the paraffin is in a solid state at a temperature ranging from 15 to 30°C, [[and]]

wherein the compound capable of forming a solid substance by a chemical reaction is a polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer, and

wherein the plurality of perforations is formed by a mechanically perforating method or a method of etching by a light-abrasion method.

19-21. (Cancelled)

22. (Currently amended) The production process according to claim 18, wherein in Step I, ~~the soluble polymer or the paraffin~~ the solution containing a soluble polymer and a solvent, or the solution containing paraffin and a solvent, or the melt of paraffin is impregnated by a method of casting [[a]] the solution or [[a]] the melt ~~of the soluble polymer or the paraffin~~ on both surfaces of the porous resin base or dipping the porous resin base in [[a]] the solution or [[a]] the melt ~~of the soluble polymer or the paraffin~~, and in Step II, a composite sheet of the structure that both surfaces of the porous resin base have a solid layer of the soluble polymer or the paraffin, and the solid soluble polymer or the solid paraffin is impregnated into the porous structure is formed by a method of vaporizing out the solvent or lowering the temperature of the

porous resin base to a temperature not higher than [[the]] a solidifying point or melting point of the soluble polymer or the paraffin.

23. (Currently amended) The production process according to claim 18, wherein in Step I, ~~the compound capable of forming a solid substance by a chemical reaction~~ the liquid of a polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer, or the solution containing a polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer and a solvent is impregnated by a method of casting [[a]] the liquid or the solution ~~containing the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer~~ on both surfaces of the porous resin base or dipping the porous resin base in the liquid or the solution ~~containing the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer~~, and in Step II, [[a]] the composite sheet of the structure that both surfaces of the porous resin base have a solid polymer layer, and the solid polymer is impregnated into the porous structure is formed by a method of polymerizing the polymerizable monomer by heat or light to form a solid polymer.

24. (Cancelled)

25. (Original) The production process according to claim 18, wherein in Step V, the solid substance is dissolved and removed by using a solvent that does not dissolve or hardly dissolves the porous resin base, but exhibits good solubility for the solid substance.

26. (Original) The production process according to claim 18, wherein in Step IV, the solid substance is melted and removed.

27. (Original) The production process according to claim 18, wherein in Step VI, the conductive metal is applied to the inner wall surfaces of the respective perforations by electroless plating.

28. (Original) The production process according to claim 18, wherein the porous resin base with the inner wall surfaces of the perforations made conductive is an anisotropically conductive sheet that has conductive portions formed by the conductive metal applied to the resin portion of the porous structure in the inner wall surfaces of the plurality of the perforations extending through from the first surface to the second surface and permits imparting conductivity only to the thickness-wise direction of the sheet by the conductive portions.

29. (Currently amended) A process for producing a porous resin base with the inner wall surfaces of perforations made conductive, which comprises the following Steps i to viii:

Step i of laminating, as mask layers, porous resin layers (B) and (C) on both surfaces of a porous resin base (A) to form a laminate of a 3-layer structure;

Step ii of impregnating the respective porous structures of the laminate with ~~a soluble polymer or a paraffin, or a compound capable of forming a solid substance by a chemical reaction~~ a solution or a liquid;

Step iii of forming a solid substance from ~~the soluble polymer or the paraffin, or the compound capable of forming a solid substance by a chemical reaction~~ the solution or the liquid, which has been impregnated;

Step iv of forming a plurality of perforations extending through from the first surface of the laminate having the solid substance within the respective porous structures to the second surface in the laminate;

Step v of dissolving the solid substance to remove it from the interiors of the respective porous structures;

Step vi of applying a catalyst facilitating a reducing reaction of a metal ion to the surfaces of the laminate including the inner wall surfaces of the respective perforations;

Step vii of removing the mask layers from both surfaces of the porous resin base (A); and

Step viii of using the catalyst applied to and remaining on the inner wall surfaces of the respective perforations in the porous resin base (A) to apply a conductive metal to the inner wall surfaces,

wherein the porous resin base is a porous resin base which is an expanded polytetrafluoroethylene base having a microstructure comprising fibrils and nodes connected to each other by the fibrils,

wherein the solution is a solution containing a soluble polymer and a solvent, a solution containing paraffin and a solvent, or a solution containing a compound capable of forming a solid substance by a chemical reaction and a solvent,

wherein the liquid is a melt of a soluble polymer, a melt of paraffin, or a compound capable of forming a solid substance by a chemical reaction,

~~wherein the soluble polymer is soluble in a water or an organic solvent,~~ wherein the soluble polymer or the paraffin is in a solid state at a temperature ranging from 15 to 30°C, [[and]]

wherein the compound capable of forming a solid substance by a chemical reaction is a polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer, and

wherein the plurality of perforations is formed by a mechanically perforating method or a method of etching by a light-abrasion method.

30-32. (Cancelled)

33. (Currently amended) The production process according to claim 29, wherein [[a]] the liquid containing the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer or [[a]] the solution containing ~~the compound capable of forming a solid substance by a chemical reaction~~ the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer and a solvent is a liquid or solution also containing, in addition to the polymerizable monomer, a polymer obtained by the polymerization of the polymerizable monomer.

34. (Previously presented) The production process according to claim 29, wherein the polymerizable monomer is an acrylate or a methacrylate.

35. (Currently amended) The production process according to claim 29, wherein in Step ii, ~~the soluble polymer or the paraffin~~ the solution containing a soluble polymer and a solvent, or the solution containing paraffin and a solvent, or the melt of a soluble polymer, or the melt of paraffin is impregnated by casting [[a]] the solution or [[a]] the ~~melt of the soluble polymer or the paraffin~~ on both surfaces of the laminate or dipping the laminate in [[a]] the solution or [[a]] the melt ~~of the soluble polymer or the paraffin~~, and in Step iii, a solid polymer or a solid paraffin is formed by a method of vaporizing out the solvent or lowering the temperature of the laminate to a temperature not higher than [[the]] a solidifying point or a melting point of the soluble polymer or the paraffin.

36. (Currently amended) The production process according to claim 29, wherein in Step ii, [[a]] the liquid of a polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer, or [[a]] the solution containing the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer and a solvent~~, as the compound capable of forming a solid substance by a chemical reaction, the polymerizable monomer undergoing a polymerization reaction by heat or light to form a polymer~~ is impregnated into the respective porous structures of the laminate, and in Step iii, the polymerizable monomer is polymerized by heat or light to form a solid polymer.

37. (Cancelled)

38. (Original) The production process according to claim 29, wherein in Step v, the solid substance is dissolved and removed by using a solvent that does not dissolve or hardly

dissolves the porous resin base, but exhibits good solubility for the solid substance.

39. (Original) The production process according to claim 29, wherein in Step viii, the conductive metal is applied to the inner wall surfaces of the respective perforations by electroless plating.

40. (Original) The production process according to claim 29, wherein the porous resin base with the inner wall surfaces of the perforations made conductive is an anisotropically conductive sheet that has conductive portions formed by the conductive metal applied to the resin portion of the porous structure in the inner wall surfaces of the plurality of the perforations extending through from the first surface to the second surface and permits imparting conductivity only to the thickness-wise direction of the sheet by the conductive portions.

41. (New) The production process according to claim 1, wherein the substance having a solidifying point or a melting point within a range of from -150 to 150°C is paraffin having a melting point of at least 15°C.

42. (New) The production process according to claim 1, wherein the solution containing a soluble polymer and a solvent, or the solution containing paraffin and a solvent is impregnated into the porous structure of the porous resin base in Step 1, the solvent is vaporized out to form a solid substance of the polymer or the paraffin in Step 2, and the solid substance is dissolved with a solvent to remove it in Step 4.